

1/19

## FIG 1a

1 ATGTGGGTGACCAAACCTCCTGCCAGCCCTGCTGCTGCAGCATGTCCTCCTGCATCTCCTC 60  
 TACACCCACTGGTTTGAGGACGGTGGGACGACGACGTCGTACAGGAGGACGTAGAGGAG  
 1 M W V T K L L P A L L L Q H V L L H L L 20  
 CTGCTCCCCATCGCCATCCCCTATGCAGAGGGACAAAGGAAAAGAAGAAATACAATTCAT  
 61 GACGAGGGGTAGCGGTAGGGGATACGTCTCCCTGTTTCCTTTTCTTCTTTATGTTAAGTA 120  
 21 L L P I A I P Y A E G Q R K R R N T I H 40  
 GAATTCAAAAAATCAGCAAAGACTACCCTAATCAAAATAGATCCAGCACTGAAGATAAAA  
 121 CTTAAGTTTTTTAGTCGTTTCTGATGGGATTAGTTTTATCTAGGTCGTGACTTCTATTTT 180  
 41 E F K K S A K T T L I K I D P A L K I K 60  
 ACCAAAAAAGTGAATACTGCAGACCAATGTGCTAATAGATGTACTAGGAATAAAGGACTT  
 181 TGGTTTTTTTCACTTATGACGTCTGGTTACACGATTATCTACATGATCCTTATTTTCTGAA 240  
 61 T K K V N T A D Q C A N R C T R N K G L 80  
 CCATTCACTTGCAAGGCTTTTGTGTTTTGATAAAGCAAGAAAACAATGCCTCTGGTTCCCC  
 241 GGTAAGTGAACGTTCGAAACAAAACTATTTTCGTTCTTTTGTGTTACGGAGACCAAGGGG 300  
 81 P F T C K A F V F D K A R K Q C L W F P 100  
 TTCAATAGCATGTCAAGTGGAGTGAAAAAAGAATTTGGCCATGAATTTGACCTCTATGAA  
 301 AAGTTATCGTACAGTTCACCTCACTTTTTTCTTAAACCGGTACTTAACTGGAGATACTT 360  
 101 F N S M S S G V K K E F G H E F D L Y E 120  
 AACAAAGACTACATTAGAAACTGCATCATTGGTAAAGGACGCAGCTACAAGGGAACAGTA  
 361 TTGTTTTCTGATGTAATCTTTGACGTAGTAACCATTTCCTGCGTCGATGTTCCCTTGTCAT 420  
 121 N K D Y I R N C I I G K G R S Y K G T V 140  
 TCTATCACTAAGAGTGGCATCAAATGTCAGCCCTGGAGTTCCATGATACCACACGAACAC  
 421 AGATAGTGATTCTCACCGTAGTTTACAGTCGGGACCTCAAGGTACTATGGTGTGCTTGTG 480  
 141 S I T K S G I K C Q P W S S M I P H E H 160

(continued)

097600991-1550950

(continued)

2/19

481 AGCTATCGGGGTAAAGACCTACAGGAAACTACTGTGCAATCCTCGAGGGGAAGAAGGG 540  
 TCGATAGCCCCATTTCTGGATGTCCTTTTGATGACAGCTTTAGGAGCTCCCCTTCTTCCC  
 161 S Y R G K D L Q E N Y C R N P R G E E G 180  
 541 GGACCCTGGTGTTCACAAGCAATCCAGAGGTACGCTACGAAGTCTGTGACATTCTCAG 600  
 CCTGGGACCACAAAGTGTTTCGTTAGGTCTCCATGCGATGCTTCAGACACTGTAAGGAGTC  
 181 G P W C F T S N P E V R Y E V C D I P Q 200  
 601 TGTTTCAGAAGTTGAATGCATGACCTGCAATGGGGAGAGTTATCGAGGTCTCATGGATCAT 660  
 ACAAGTCTTCAACTTACGTACTGGACGTTACCCCTCTCAATAGCTCCAGAGTACCTAGTA  
 201 C S E V E C M T C N G E S Y R G L M D H 220  
 661 ACAGAATCAGGCAAGATTTGTCAGCGCTGGGATCATCAGACACCACACCGGCACAAATTC 720  
 TGTCTTAGTCCGTTCTAAACAGTCGCGACCCTAGTAGTCTGTGGTGTGGCCGTGTTTAA  
 221 T E S G K I C Q R W D H Q T P H R H K F 240  
 721 TTGCCTGAAAGATATCCCGACAAGGGCTTTGATGATAATTATTGCCGCAATCCCGATGGC 780  
 AACGGACTTTCTATAGGGCTGTTCCCGAACTACTATTAATAACGGCGTTAGGGCTACCG  
 241 L P E R Y P D K G F D D N Y C R N P D G 260  
 781 CAGCCGAGGCCATGGTGTCTATACTCTTGACCCTCACACCCGCTGGGAGTACTGTGCAATT 840  
 GTCGGCTCCGGTACCACGATATGAGAACTGGGAGTGTGGGCGACCCTCATGACACGTTAA  
 261 Q P R P W C Y T L D P H T R W E Y C A I 280  
 841 AAAACATGCGCTGACAATACTATGAATGACACTGATGTTCCCTTTGGAAACAACTGAATGC 900  
 TTTTGTACGCGACTGTTATGATACTTACTGTGACTACAAGGAAACCTTTGTTGACTTACG  
 281 K T C A D N T M N D T D V P L E T T E C 300  
 901 ATCCAAGGTCAAGGAGAAGGCTACAGGGGCACTGTCAATACCATTGGAATGGAATTCCA 960  
 TAGGTTCCAGTTCTCTTCCGATGTCCCCGTGACAGTTATGGTAAACCTTACCTTAAGGT  
 301 I Q G Q G E G Y R G T V N T I W N G I P 320  
 961 TGTCAGCGTTGGGATTCTCAGTATCCTCAGGAGCATGACATGACTCCTGAAAATTTCAAG 1020  
 ACAGTCGCAACCCTAAGAGTCATAGGAGTGCTCGTACTGTACTGAGGACTTTTAAAGTTC  
 321 C Q R W D S Q Y P H E H D M T P E N F K 340  
 1021 TGCAAGGACCTACGAGAAAATTACTGCCGAAATCCAGATGGGTCTGAATCACCCCTGGTGT 1080  
 ACGTTCTGATGCTCTTTTAATGACGGCTTTAGGTCTACCCAGACTTAGTGGGACCACA  
 341 C K D L R E N Y C R N P D G S E S P W C 360  
 1081 TTTACCACTGATCCAAACATCCGAGTTGGCTACTGCTCCCAAATTCCAAACCTGTGATATG 1140  
 AAATGGTGACTAGGTTTGTAGGCTCAACCGATGACGAGGGTTTAAGGTTTGACACTATAC  
 361 F T T D P N I R V G Y C S Q I P N C D M 380

(continued)

09/600991

(continued)

3/19

1141 TCACATGGACAAGATTGTTATCGTGGGAATGGCAAAAATTATATGGGCAACTTATCCCAA 1200  
AGTGTACCTGTTCTAACAATAGCACCCCTTACCGTTTTTAATATACCCGTTGAATAGGGTT

381 S H G Q D C Y R G N G K N Y M G N L S Q 400

1201 ACAAGATCTGGACTAACATGTTCAATGTGGGACAAGAACATGGAAGACTTACATCGTCAT 1260  
TGTTCTAGACCTGATTGTACAAGTTACACCCTGTTCTTGACCTTCTGAATGTAGCAGTA

401 T R S G L T C S M W D K N M E D L H R H 420

1261 ATCTTCTGGGAACCAGATGCAAGTAAGCTGAATGAGAATTACTGCCGAAATCCAGATGAT 1320  
TAGAAGACCCTTGGTCTACGTTTCATTGACTTACTCTTAATGACGGCTTTAGGTCTACTA

421 I F W E P D A S K L N E N Y C R N P D D 440

1321 GACGCTCATGGACCCTGGTGCTACACGGGAATCCACTCATTTCCTTGGGATTATTGCCCT 1380  
CTGCGAGTACCTGGGACCACGATGTGCCCTTTAGGTGAGTAAGGAACCCTAATAACGGGA

441 D A H G P W C Y T G N P L I P W D Y C P 460

1381 ATTTCTCGTTGTGAAGGTGATACCACACCTACAATAGTCAATTTAGACCATCCCGTAATA 1440  
TAAAGAGCAACACTTCCACTATGGTGTGGATGTTATCAGTTAAATCTGGTAGGGCATTAT

461 I S R C E G D T T P T I V N L D H P V I 480

1441 TCTTGTGCCAAAACGAAACAATTGCGAGTTGTAAATGGGATTCCAACACGAACAAACATA 1500  
AGAACACGGTTTTTGCTTTGTTAACGCTCAACATTTACCCTAAGGTTGTGCTTGTGTTGTAT

481 S C A K T K Q L R V V N G I P T R T N I 500

1501 GGATGGATGGTTAGTTTGAGATACAGAAATAAACATATCTGCGGAGGATCATTGATAAAG 1560  
CCTACCTACCAATCAAACCTCTATGTCTTTATTTGTATAGACGCCTCCTAGTAACCTATTC

501 G W M V S L R Y R N K H I C G G S L I K 520

1561 GAGAGTTGGGTTCTTACTGCACGACAGTGTTCCTTCTCGAGACTTGAAAGATTATGAA 1620  
CTCTCAACCCAAGAATGACGTGCTGTCAAAAGGGAAGAGCTCTGAACCTTCTAATACTT

521 E S W V L T A R Q C F P S R D L K D Y E 540

1621 GCTTGGCTTGGAATTCATGATGTCCACGGAAGAGGAGATGAGAAATGCAAACAGGTTCTC 1680  
CGAACCGAACCTTAAGTACTACAGGTGCCTTCTCCTCTACTCTTTACGTTTGTCCAAGAG

541 A W L G I H D V H G R G D E K C K Q V L 560

1681 AATGTTTCCCAGCTGGTATATGGCCCTGAAGGATCAGATCTGGTTTTAATGAAGCTTGCC 1740  
TTACAAAGGGTCGACCATATACGGGACTTCCTAGTCTAGACCAAATTACTTCGAACGG

561 N V S Q L V Y G P E G S D L V L M K L A 580

1741 AGGCCTGCTGTCCTGGATGATTTTGTAGTACGATTGATTTACCTAATTATGGATGCACA 1800  
TCCGGACGACAGGACCTACTAAAACAATCATGCTAACTAAATGGATTAATACCTACGTGT

581 R P A V L D D F V S T I D L P N Y G C T 600

(continued)

4/19

(continued)

1801 ATTCCTGAAAAGACCAGTTGCAGTGTTTATGGCTGGGGCTACACTGGATTGATCAACTAT 1860  
-----+-----+-----+-----+-----+-----+  
TAAGGACTTTTCTGGTCAACGTCACAAATACCGACCCCGATGTGACCTAACTAGTTGATA  
601 I P E K T S C S V Y G W G Y T G L I N Y 620  
GATGGCCTATTACGAGTGGCACATCTCTATATAATGGGAAATGAGAAATGCAGCCAGCAT  
1861 -----+-----+-----+-----+-----+-----+ 1920  
CTACCGGATAATGCTCACCGTGTAGAGATATATTACCTTTACTCTTTACGTCGGTCGTA  
621 D G L L R V A H L Y I M G N E K C S Q H 640  
CATCGAGGGAAGGTGACTCTGAATGAGTCTGAAATATGTGCTGGGGCTGAAAAGATTGGA  
1921 -----+-----+-----+-----+-----+-----+ 1980  
GTAGCTCCCTTCCACTGAGACTTACTCAGACTTTATACACGACCCCGACTTTTCTAACCT  
641 H R G K V T L N E S E I C A G A E K I G 660  
TCAGGACCATGTGAGGGGGATTATGGTGGCCCACTTGTTTGTGAGCAACATAAAATGAGA  
1981 -----+-----+-----+-----+-----+-----+ 2040  
AGTCCTGGTACACTCCCCCTAATACCACCGGGTGAACAAACACTCGTTGTATTTTACTCT  
661 S G P C E G D Y G G P L V C E Q H K M R 680  
ATGGTTCTTGGTGTCAATTGTTTCCTGGTCGTGGATGTGCCATTCCAAATCGTCCTGGTATT  
2041 -----+-----+-----+-----+-----+-----+ 2100  
TACCAAGAACCACAGTAACAAGGACCAGCACCTACACGGTAAGGTTTAGCAGGACCATAA  
681 M V L G V I V P G R G C A I P N R P G I 700  
TTTGTCCGAGTAGCATATTATGCAAAATGGATACACAAAATTATTTTAACATATAAGGTA  
2101 -----+-----+-----+-----+-----+-----+ 2160  
AAACAGGCTCATCGTATAATACGTTTTACCTATGTGTTTTAATAAAATTGTATATTCCAT  
701 F V R V A Y Y A K W I H K I I L T Y K V 720  
CCACAGTCATAG  
2161 -----+----- 2172  
GGTGTCAGTATC  
721 P Q S \* 723

09/600991 "EST" 09/600991

5/19

## FIG 1b

1 ATGGGGTGGCTCCCACTCCTGCTGCTTCTGACTCAATGCTTAGGGGTCCCTGGGCAGCGC 60  
-----+-----+-----+-----+-----+-----+  
1 TACCCACCGAGGGTGAGGACGACGAAGACTGAGTTACGAATCCCCAGGGACCCGTCGCG 20  
1 M G W L P L L L L L T Q C L G V P G Q R  
61 TCGCCATTGAATGACTTCCAAGTGCTCCGGGGCACAGAGCTACAGCACCTGCTACATGCG 120  
-----+-----+-----+-----+-----+-----+  
61 AGCGGTAACCTTACTGAAGGTTACAGAGGCCCGTGCTCGATGTCGTGGACGATGTACGC  
21 S P L N D F Q V L R G T E L Q H L L H A 40  
121 GTGGTGCCCGGGCCTTGGCAGGAGGATGTGGCAGATGCTGAAGAGTGTGCTGGTTCGCTGT 180  
-----+-----+-----+-----+-----+-----+  
41 CACCACGGGCCCCGAACCGTCCTCCTACACCGTCTACGACTTCTCACACGACCAGCGACA 60  
41 V V P G P W Q E D V A D A E E C A G R C  
181 GGGCCCTTAATGGACTGCCGGGCCTTCCACTACAACGTGAGCAGCCATGGTTGCCAACTG 240  
-----+-----+-----+-----+-----+-----+  
61 CCCGGGAATTACCTGACGGCCCCGAAGGTGATGTTGCACTCGTCGGTACCAACGGTTGAC 80  
61 G P L M D C R A F H Y N V S S H G C Q L  
241 CTGCCATGGACTCAACACTCGCCCCACACGAGGCTGCGGCGTTCTGGGCGCTGTGACCTC 300  
-----+-----+-----+-----+-----+-----+  
81 GACGGTACCTGAGTTGTGAGCGGGGTGTGCTCCGACGCCGCAAGACCCGCGACTGGAG 100  
81 L P W T Q H S P H T R L R R S G R C D L  
301 TTCCAGAAGAAAGACTACGTACGGACCTGCATCATGAACAATGGGGTTGGGTACCGGGGC 360  
-----+-----+-----+-----+-----+-----+  
101 AAGGTCTTCTTTCTGATGCATGCCTGGACGTAGTACTTGTACCCCAACCCATGGCCCCG 120  
101 F Q K K D Y V R T C I M N N G V G Y R G  
361 ACCATGGCCACGACCGTGGGTGGCCTGCCCTGCCAGGCTTGGAGCCACAAGTTCCCGAAT 420  
-----+-----+-----+-----+-----+-----+  
121 TGGTACCGGTGCTGGCACCCACCGGACGGGACGGTCCGAACCTCGGTGTTCAAGGGCTTA 140  
121 T M A T T V G G L P C Q A W S H K F P N  
421 GATCACAAGTACACGCCCCACTCTCCGGAATGGCCTGGAAGAGAACTTCTGCCGTAACCTT 480  
-----+-----+-----+-----+-----+-----+  
141 CTAGTGTTTCATGTGCGGGTGAGAGGCCTTACCGGACCTTCTCTTGAAGACGGCATTGGGA 160  
141 D H K Y T P T L R N G L E E N F C R N P

(continued)

005150-TE600991

(continued)

6/19

481 GATGGCGACCCCGGAGGTCCTTGGTGCTACACAACAGACCCTGCTGTGCGCTTCCAGAGC 540  
CTACCGCTGGGGCCTCCAGGAACCACGATGTGTTGTCTGGGACGACACGCGAAGGTCTCG

161 D G D P G G P W C Y T T D P A V R F Q S 180

531 TGCGGCATCAAATCCTGCCGGGAGGCCGCGTGTGTCTGGTGCAATGGCGAGGAATACCGC 600  
ACGCCGTAGTTTAGGACGGCCCTCCGGCGCACACAGACCACGTTACCGCTCCTTATGGCG

181 C G I K S C R E A A C V W C N G E E Y R 200

601 GGCGCGGTAGACCGCACGGAGTCAGGGCGCGAGTGCAGCGCTGGGATCTTCAGCACCCG 660  
CCGCGCCATCTGGCGTGCCTCAGTCCCGCGCTCACGGTCGCGACCCTAGAAGTCGTGGGC

201 G A V D R T E S G R E C Q R W D L Q H P 220

661 CACCAGCACCCCTTCGAGCCGGGCAAGTTCCTCGACCAAGGTCTGGACGACAACTATTGC 720  
GTGGTCTGTGGGGAAGCTCGGCCCGTTCAAGGAGCTGGTTCAGACCTGCTGTTGATAACG

221 H Q H P F E P G K F L D Q G L D D N Y C 240

721 CGGAATCCTGACGGCTCCGAGCGGCCATGGTGCTACACTACGGATCCGCAGATCGAGCGA 780  
GCCTTAGGACTGCCGAGGCTCGCCGGTACCACGATGTGATGCCTAGGCGTCTAGCTCGCT

241 R N P D G S E R P W C Y T T D P Q I E R 260

781 GAGTTCTGTGACCTCCCCGCTGCGGGTCCGAGGCACAGCCCCGCAAGAGGCCACAAC 840  
CTCAAGACACTGGAGGGGGCGACGCCAGGCTCCGTGTGCGGGCGGTTCTCCGGTGTGA

261 E F C D L P R C G S E A Q P R Q E A T T 280

841 GTCAGCTGCTTCCGCGGGAAGGGTGAGGGCTACCGGGGCACAGCCAATACCACCACTGCG 900  
CAGTCGACGAAGGCGCCCTTCCCACTCCCGATGGCCCCGTGTCGGTTATGGTGGTGACGC

281 V S C F R G K G E G Y R G T A N T T T A 300

901 GGCGTACCTTGCCAGCGTTGGGACGCGCAAATCCCGCATCAGCACCGATTTACGCCAGAA 960  
CCGCATGGAACGGTCGCAACCCTGCGCGTTTAGGGCGTAGTCGTGGCTAAATGCGGTCTT

301 G V P C Q R W D A Q I P H Q H R F T P E 320

961 AAATACGCGTGCAAAGACCTTCGGGAGAACTTCTGCCGGAACCCCGACGGCTCAGAGGCG 1020  
TTTATGCGCACGTTTCTGGAAGCCCTCTTGAAGACGGCCTTGGGGCTGCCGAGTCTCCGC

321 K Y A C K D L R E N F C R N P D G S E A 340

1021 CCCTGGTGCTTCACACTGCGGCCCCGGCATGCGCGCGGCCCTTTTGCTACCAGATCCGGCGT 1080  
GGGACCACGAAGTGTGACGCCGGGCGGTACGCGCGCCGAAAACGATGGTCTAGGCCGCA

341 P W C F T L R P G M R A A F C Y Q I R R 360

1081 TGTACAGACGACGTGCGGCCCCAGGACTGCTACCACGGCGCAGGGGAGCAGTACCGCGGC 1140  
ACATGTCTGCTGCACGCCGGGTCCTGACGATGGTGCCGCGTCCCCTCGTCATGGCGCCG

361 C T D D V R P Q D C Y H G A G E Q Y R G 380

(continued)



8/19

(continued)

1801 AAGTGTGAGATTGCAGGCTGGGGTGAGACCAAAGGTACGGGTAATGACACAGTCCTAAAT 1860  
-----+-----+-----+-----+-----+-----+  
TTCACACTCTAACGTCCGACCCCACTCTGGTTTCCATGCCCATTAAGTGTGTCAGGATTTA

601 K C E I A G W G E T K G T G N D T V L N 620

1861 GTGGCCTTTCTGAATGTTATCTCCAACCAGGAGTGTAACATCAAGCACCGAGGACGTGTG 1920  
-----+-----+-----+-----+-----+-----+  
CACCGGAAAGACTTACAATAGAGGTTGGTCCTCACAATTGTAGTTCGTGGCTCCTGCACAC

621 V A F L N V I S N Q E C N I K H R G R V 640

1921 CGGGAGAGTGAGATGTGCACTGAGGGACTGTTGGCCCCCTGTGGGGGCCTGTGAGGGTGAC 1980  
-----+-----+-----+-----+-----+-----+  
GCCCTCTCACTCTACACGTGACTCCCTGACAACCGGGGACACCCCGGACACTCCCACTG

641 R E S E M C T E G L L A P V G A C E G D 660

1981 TACGGGGGCCCCACTTGCCTGCTTTACCCACAAGTCTGGGTCCTGGAAGGAATTATAATC 2040  
-----+-----+-----+-----+-----+-----+  
ATGCCCCCGGGTGAACGGACGAAATGGGTGTTGACGACCCAGGACCTTCCTTAATATTAG

661 Y G G P L A C F T H N C W V L E G I I I 680

2041 CCCAACCGAGTATGCGCAAGGTCCCGCTGGCCAGCTGTCTTCACGCGTGTCTCTGTGTTT 2100  
-----+-----+-----+-----+-----+-----+  
GGGTTGGCTCATAACGCGTTCCAGGGCGACCGGTGACAGAAGTGCGCACAGAGACACAAA

681 P N R V C A R S R W P A V F T R V S V F 700

2101 GTGGACTGGATTACAAAGGTCATGAGACTGGGTTAG 2136  
-----+-----+-----+-----+-----+  
CACCTGACCTAAGTGTTCAGTACTCTGACCCAATC

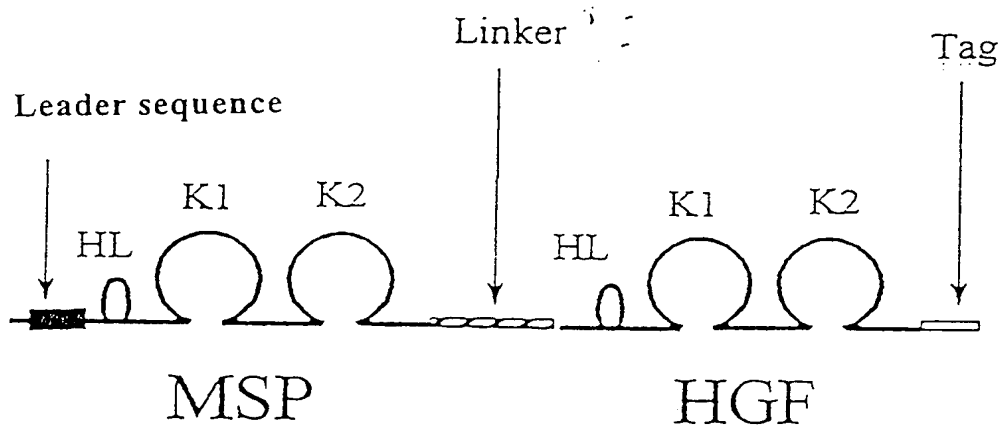
701 V D W I H K V M R L G \* 711

005501-05000000



9/19

FIG 2a



005T60" T6600360

10/19

## FIG 2b

1 GAATTCCACCATGGGGTGGCTCCCACTCCTGCTGCTTCTGACTCAATGCTTAGGGGTCCC 60  
 CTTAAGGTGGTACCCACCGAGGGTGAGGACGACGAAGACTGAGTTACGAATCCCCAGGG  
 1 M G W L P L L L L T Q C L G V P 17  
 61 TGGGCAGCGCTCGCCATTGAATGACTTCCAAGTGCTCCGGGGCACAGAGCTACAGCACCT 120  
 ACCCGTCGCGAGCGGTAACCTTACTGAAGGTTACAGAGGCCCGTGTCTCGATGTCTGTGA  
 13 G Q R S P L N D F Q V L R G T E L Q H L 37  
 121 GCTACATGCGGTGGTGCCCGGGCCTTGGCAGGAGGATGTGGCAGATGCTGAAGAGTGTGC 180  
 CGATGTACGCCACCACGGGCCCGGAACCGTCTCTACACCGTCTACGACTTCTCACACG  
 38 L H A V V P G P W Q E D V A D A E E C A 57  
 181 TGGTCGCTGTGGGCCCTTAATGGAAGTGCCGGGCCTTCCACTACAACGTGAGCAGCCATGG 240  
 ACCAGCGACACCCGGAATTACCTGACGGGCCCGGAAGGTGATGTTGCACTCGTCGGTACC  
 58 G R C G P L M D C R A F H Y N V S S H G 77  
 241 TTGCCAACTGCTGCCATGGACTCAACACTCGCCCCACACGAGGCTGCGGCGTCTTGGGCG 300  
 AACGGTTGACGACGGTACCTGAGTTGTGAGCGGGGTGTGCTCCGACGCCGCAAGACCCGC  
 78 C Q L L P W T Q H S P H T R L R R S G R 97  
 301 CTGTGACCTCTTCCAGAAGAAAGACTACGTACGGACCTGCATCATGAACAATGGGGTTGG 360  
 GACACTGGAGAAGGTCTTCTTTCTGATGCATGCCTGGACGTAGTACTTGTACCCCAACC  
 98 C D L F Q K K D Y V R T C I M N N G V G 117  
 361 GTACCGGGGCACCATGGCCACGACCGTGGGTGGCCTGCCCTGCCAGGCTTGGAGCCACAA 420  
 CATGGCCCCGTGGTACCGGTGCTGGCACCCACCGGACGGGACGGTCCGAACCTCGGTGTT  
 118 Y R G T M A T T V G G L P C Q A W S H K 137  
 421 GTTCCCGAATGATCACAAGTACACGCCCACTCTCCGGAATGGCCTGGAAGAGAACTTCTG 480  
 CAAGGGCTTACTAGTGTTCATGTGCGGGTGAGAGGCCTTACCGGACCTTCTCTTGAAGAC  
 138 F P N D H K Y T P T L R N G L E E N F C 157  
 481 CCGTAACCCTGATGGCGACCCCGGAGGTCCTTGGTGCTACACAACAGACCCTGCTGTGCG 540  
 GGCATTGGGACTACCGCTGGGGCCTCCAGGAACCACGATGTGTTGTCTGGGACGACACGC  
 158 R N P D G D P G G P W C Y T T D P A V R 177

(continued)

-11/19

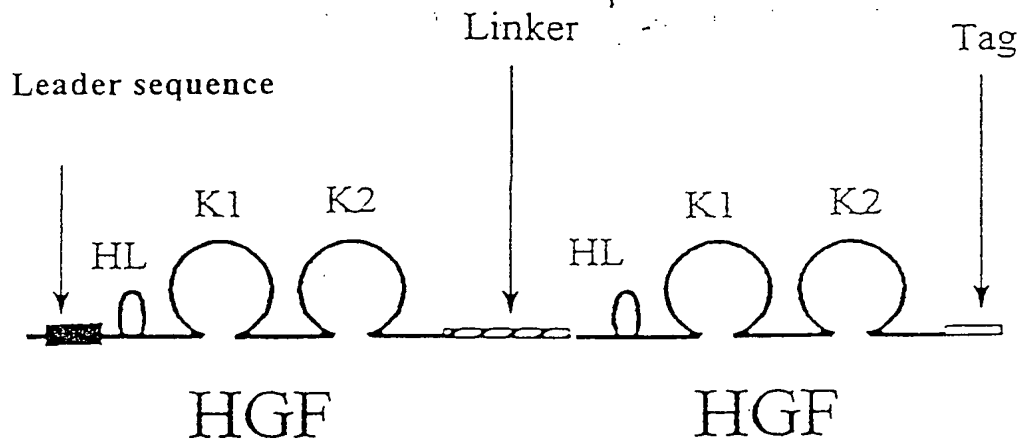
541	CTTCCAGAGCTGCGGCATCAAATCCTGCGGGAGGCCGCGTGTGTCTGGTGCAATGGCGA GAAGGTCTCGACGCCGTAGTTTAGGACGGCCCTCCGGCGCACACAGACCACGTTACCGCT	600
178	F Q S C G I K S C R E A A C V W C N G E	197
601	GGAATACCGCGGCGCGGTAGACCGCACGGAGTCAGGGCGCGAGTGCCAGCGCTGGGATCT CCTTATGGCGCCGCGCCATCTGGCGTGCCTCAGTCCCGCGCTCACGGTCGCGACCCTAGA	660
198	E Y R G A V D R T E S G R E C Q R W D L	217
661	TCAGCACCCGACACCAGCACCCCTTCGAGCCGGGCAAGTTCCTCGACCAAGGTCTGGACGA AGTCGTGGGCGTGGTCGTGGGGAAGCTCGGCCCGTTCAAGGAGCTGGTTCCAGACCTGCT	720
218	Q H P H Q H P F E P G K F L D Q G L D D	237
721	CAACTATTGCCGGAATCCTGACGGCTCCGAGCGGCCATGGTGCTACACTACGGATCCGCA GTTGATAACGGCCTTAGGACTGCCGAGGCTCGCCGGTACCACGATGTGATGCCTAGGCGT	780
238	N Y C R N P D G S E R P W C Y T T D P Q	257
781	GATCGAGCGAGAGTTCTGTGACCTCCCCGCTGCGGGTCCGAGGCACAGCCCCGCCTCGA CTAGCTCGCTCTCAAGACACTGGAGGGGGCGACGCCAGGCTCCGTGTGCGGGCGGAGCT	840
258	I E R E F C D L P R C G S E A Q P R L E	277
841	GGGCGGTGGCGGTTCTGGTGGCGGTGGCTCCGGCGGTGGCGGTTCTCTAGAGGGACAAAG CCCGCCACCGCCAAGACCACCGCCACCGAGGCCGCCACCGCCAAGAGATCTCCCTGTTTC	900
278	G G G G S G G G G S G G G G S L E G Q R	297
901	GAAAAGAAGAAATACAATTCATGAATTCAAAAAATCAGCAAAGACTACCCTAATCAAAT CTTTTCTTCTTTATGTTAAGTACTTAAGTTTTTTAGTCGTTTCTGATGGGATTAGTTTTA	960
298	K R R N T I H E F K K S A K T T L I K I	317
961	AGATCCAGCACTGAAGATAAAAACCAAAAAAGTGAATACTGCAGACCAATGTGCTAATAG TCTAGGTGCTGACTTCTATTTTTGGTTTTTTCACTTATGACGTCTGGTTACACGATTATC	1020
318	D P A L K I K T K K V N T A D Q C A N R	337
1021	ATGTACTAGGAATAAAGGACTTCCATTCACCTTGCAAGGCTTTTGTTTTTGATAAAGCAAG TACATGATCCTTATTTCTGAAGGTAAGTGAACGTTCCGAAAACAAAACTATTTCGTTTC	1080
338	C T R N K G L P F T C K A F V F D K A R	357
1081	AAAACAATGCCTCTGGTTCCCTTCATAGCATGTCAAGTGGAGTGAAAAAGAATTTGG TTTTGTTACGGAGACCAAGGGGAAGTTATCGTACAGTTCACCTCACTTTTTTCTTAACC	1140
358	K Q C L W F P F N S M S S G V K K E F G	377
1141	CCATGAATTTGACCTCTATGAAAACAAAGACTACATTAGAAACTGCATCATTGGTAAAGG GGTACTTAAACTGGAGATACTTTTGTTCCTGATGTAATCTTTGACGTAGTAACCATTTCC	1200
378	H E F D L Y E N K D Y I R N C I I G K G	397

(continued)

1. The first part of the report is a general statement of the purpose and scope of the study.

1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 26

FIG 3a



14/19

FIG 3b

1 GGATCCGCCAGCCCGTCCAGCAGCACCATGTGGGTGACCAAACCTCCTGCCAGCCCTGCTG 60  
 -----+-----+-----+-----+-----+-----+-----+  
 CCTAGGCGGTTCGGGCAGGTCGTCTGGTACACCCACTGGTTTGAGGACGGTTCGGGACGAC  
 1 M W V T K L L P A L L 11  
 61 CTGCAGCATGTCTCCTGCATCTCCTCCTGCTCCCCATCGCCATCCCCTATGCAGAGGGA 120  
 -----+-----+-----+-----+-----+-----+-----+  
 GACGTCGTACAGGAGGACGTAGAGGAGGACGAGGGGTAGCGGTAGGGGATACGTCTCCCT  
 12 L Q H V L L H L L L L P I A I P Y A E G 31  
 121 CAAAGGAAAAGAAGAAATACAATTCAATGAATTCAAAAAATCAGCAAAGACTACCCTAATC 180  
 -----+-----+-----+-----+-----+-----+-----+  
 GTTTCCTTTTCTTCTTTATGTAAAGTACTTAAGTTTTTTAGTCGTTTCTGATGGGATTAG  
 32 Q R K R R N T I H E F K K S A K T T L I 51  
 181 AAAATAGATCCAGCACTGAAGATAAAAACCAAAAAAGTGAATACTGCAGACCAATGTGCT 240  
 -----+-----+-----+-----+-----+-----+-----+  
 TTTTATCTAGGTCGTGACTTCTATTTTTGGTTTTTTTCACTTATGACGTCTGGTTACACGA  
 52 K I D P A L K I K T K K V N T A D Q C A 71  
 241 AATAGATGTACTAGGAATAAAGGACTTCCATTCACTTGCAAGGCTTTTGTTTTTGATAAA 300  
 -----+-----+-----+-----+-----+-----+-----+  
 TTATCTACATGATCCTTATTTTCTGAAGGTAAGTGAACGTTCCGAAAACAAAACCTATTT  
 72 N R C T R N K G L P F T C K A F V F D K 91  
 301 GCAAGAAAACAATGCCTCTGGTTCCCCTTCAATAGCATGTCAAGTGGAGTGAAAAAAGAA 360  
 -----+-----+-----+-----+-----+-----+-----+  
 CGTTCTTTTGTGTACGGAGACCAAGGGGAAGTTATCGTACAGTTCACCTCACTTTTTTCTT  
 92 A R K Q C L W F P F N S M S S G V K K E 111  
 361 TTTGGCCATGAATTTGACCTCTATGAAAACAAAGACTACATTAGAAACTGCATCATTGGT 420  
 -----+-----+-----+-----+-----+-----+-----+  
 AAACCGGTACTTAAACTGGAGATACTTTTGTCTTCTGATGTAATCTTTGACGTAGTAACCA  
 112 F G H E F D L Y E N K D Y I R N C I I G 131  
 421 AAAGGACGCAGCTACAAGGGAACAGTATCTATCACTAAGAGTGGCATCAAATGTCAGCCC 480  
 -----+-----+-----+-----+-----+-----+-----+  
 TTTCTGCGTCGATGTTCCCTTGTCATAGATAGTGATTCTCACCAGTAGTTTACAGTCGGG  
 132 K G R S Y K G T V S I T K S G I K C Q P 151  
 481 TGGAGTTCCATGATACCAACGAACACAGCTATCGGGGTAAAGACCTACAGGAAAACCTAC 540  
 -----+-----+-----+-----+-----+-----+-----+  
 ACCTCAAGGTACTATGGTGTGCTTGTGTGCGATAGCCCCATTTCTGGATGTCCTTTTGATG  
 152 W S S M I P H E H S Y R G K D L Q E N Y 171

(continued)

(continued)

15/19

541 TGTCGAAATCCTCGAGGGGAAGAAGGGGGACCCTGGTGTTCACAAGCAATCCAGAGGTA  
ACAGCTTTAGGAGCTCCCCTTCTTCCCCCTGGGACCACAAAGTGTTCGTTAGGTCTCCAT 600

172 C R N P R G E E G G P W C F T S N P E V 191

601 CGCTACGAAGTCTGTGACATTCCCTCAGTGTTCAGAAGTTGAATGCATGACCTGCAATGGG  
GCGATGCTTCAGACACTGTAAGGAGTCACAAGTCTTCAACTTACGTACTGGACGTTACCC 660

192 R Y E V C D I P Q C S E V E C M T C N G 211

661 GAGAGTTATCGAGGTCTCATGGATCATAACAATCAGGCAAGATTTGTTCAGCGCTGGGAT  
CTCTCAATAGCTCCAGAGTACCTAGTATGTCTTAGTCCGTTCTAAACAGTCGCGACCCTA 720

212 E S Y R G L M D H T E S G K I C Q R W D 231

721 CATCAGACACCACACCGGCACAAATCTTGCCTGAAAGATATCCCGACAAGGGCTTTGAT  
GTAGTCTGTGGTGTGGCCGTGTTAAGAACGGACTTTCTATAGGGCTGTTCCCGAAACTA 780

232 H Q T P H R H K F L P E R Y P D K G F D 251

781 GATAATTATTGCCGCAATCCCGATGGCCAGCCGAGGCCATGGTGTCTATACTCTTGACCCCT  
CTATTAATAACGGCGTTAGGGCTACCGGTCCGGTCCGGTACCACGATATGAGAACTGGGA 840

252 D N Y C R N P D G Q P R P W C Y T L D P 271

841 CACACCCGCTGGGAGTACTGTGCAATTAAACATGCGCTGACAAAGCTTCGGGCGGTGGC  
GTGTGGGCGACCCCTCATGACACGTTAATTTTGTACGCGACTGTTTCGAAGCCCGCCACCG 900

272 H T R W E Y C A I K T C A D K A S G G G 291

901 GGTTCCTGGTGGCGGTGGCTCCGGCGGTGGCGGTCTCTAGAGGGACAAAGGAAAAGAAGA  
CCAAGACCACCGCCACCGAGGCCGCCACCGCCAAGAGATCTCCCTGTTTCCTTTCTTCT 960

292 G S G G G G S G G G G S L E G Q R K R R 311

961 AATACAATTCATGAATTCAAAAAATCAGCAAAGACTACCCTAATCAAAATAGATCCAGCA  
TTATGTTAAGTACTTAAGTTTTTTTAGTCGTTTCTGATGGGATTAGTTTTATCTAGGTCGT 1020

312 N T I H E F K K S A K T T L I K I D P A 331

1021 CTGAAGATAAAAAACCAAAAAAGTGAATACTGCAGACCAATGTGCTAATAGATGTACTAGG  
GACTTCTATTTTTTGGTTTTTTTCACTTATGACGTCTGGTTACACGATTATCTACATGATCC 1080

332 L K I K T K K V N T A D Q C A N R C T R 351

1081 AATAAAGGACTTCCATTCACTTGCAAGGCTTTTTGTTTTTGATAAAGCAAGAAAACCAATGC  
TTATTTCTCTGAAGGTAAGTGAACGTTCCGAAAACAAAACTATTTTCGTTCTTTTGTACG 1140

352 N K G L P F T C K A F V F D K A R K Q C 371

1141 CTCTGGTTCCTCTCAATAGCATGTCAAGTGGAGTGAAAAAGAATTTGGCCATGAATTT  
GAGACCAAGGGGAAGTTATCGTACAGTTCACCTCACTTTTTTCTTAAACCGGTACTTAAA 1200

372 L W F P F N S M S S G V K K E F G H E F 391

(continued)

16/19

1201 GACCTCTATGAAAACAAGACTACATTAGAACTGCATCATTGGTAAAGGACGCAGCTAC 1260  
 CTGGAGATACTTTTGTCTGATGTAATCTTTGACGTAGTAACCATTTCCTGCGTCGATG  
 392 D L Y E N K D Y I R N C I I G K G R S Y 411  
 1261 AAGGGAACAGTATCTATCACTAAGAGTGGCATCAAATGTCAGCCCTGGAGTTCCATGATA 1320  
 TTCCCTTGTCATAGATAGTGATTCTCACCAGTAGTTTACAGTCGGGACCTCAAGGTACTAT  
 412 K G T V S I T K S G I K C Q P W S S M I 431  
 1321 CCACACGAACACAGCTATCGGGGTAAAGACCTACAGGAAACTACTGTCGAAATCCTCGA 1380  
 GGTGTGCTTGTGTCGATAGCCCCATTTCTGGATGTCCTTTTGATGACAGCTTTAGGAGCT  
 432 P H E H S Y R G K D L Q E N Y C R N P R 451  
 1381 GGGGAAGAAGGGGGACCCTGGTGTTCACAAGCAATCCAGAGGTACGCTACGAAGTCTGT 1440  
 CCCCTTCTTCCCCCTGGGACCACAAAGTGTTTCGTTAGGTCTCCATGCGATGCTTCAGACA  
 452 G E E G G P W C F T S N P E V R Y E V C 471  
 1441 GACATTCCTCAGTGTTCAGAAGTTGAATGCATGACCTGCAATGGGGAGAGTTATCGAGGT 1500  
 CTGTAAGGAGTCAACAAGTCTTCAACTTACGTACTGGACGTTACCCCTCTCAATAGCTCCA  
 472 D I P Q C S E V E C M T C N G E S Y R G - 491  
 1501 CTCATGGATCATAACAGATCAGGCAAGATTTGTCAGCGCTGGGATCATCAGACACCACAC 1560  
 GAGTACCTAGTATGTCTTAGTCCGTTCTAAACAGTCGCGACCCTAGTAGTCTGTGGTGTG  
 492 L M D H T E S G K I C Q R W D H Q T P H 511  
 1561 CGGCACAAATTCTTGCCTGAAAGATATCCCGACAAGGGCTTTGATGATAATTATTGCCGC 1620  
 GCCGTGTTTAAAGAACGGACTTTCTATAGGGCTGTTCCCGAACTACTATTAATAACGGCG  
 512 R H K F L P E R Y P D K G F D D N Y C R 531  
 1621 AATCCCGATGGCCAGCCGAGGCCATGGTGCTATACTCTTGACCCTCACACCCGCTGGGAG 1680  
 TTAGGGCTACCGGTGCGCTCCGGTACCACGATATGAGAACTGGGAGTGTGGGCGACCCCTC  
 532 N P D G Q P R P W C Y T L D P H T R W E 551  
 1681 TACTGTGCAATTAAACATGCGCTGACAAAGCTGACGACGACGACAAACACCACCACCAC 1740  
 ATGACACGTTAATTTTGTACGCGACTGTTTCGACTGCTGCTGCTGTTTGTGGTGGTGGTG  
 552 Y C A I K T C A D K A D D D D K H H H H 571  
 1741 CACCACCACTAGGGTCCGAC 1759  
 GTGGTGGTGATCCCAGCTG  
 572 H H H \* 574

09/600991



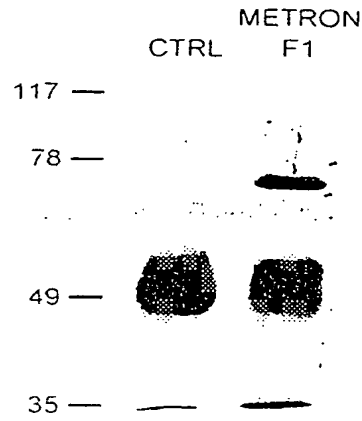


Fig 4

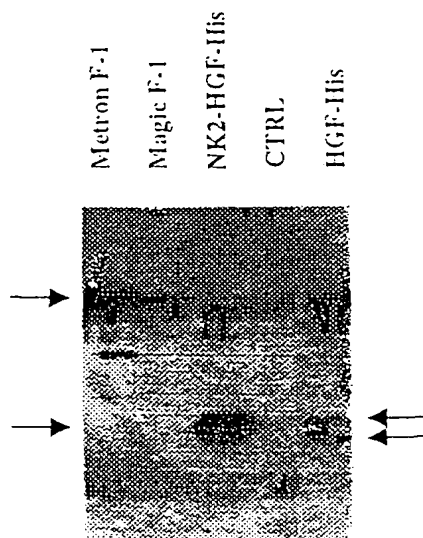


Fig 5A

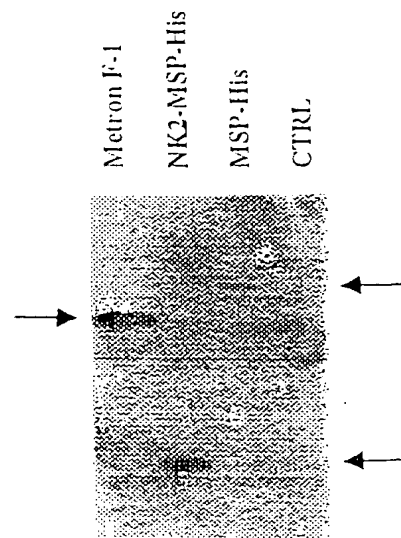


Fig 5B

18/19

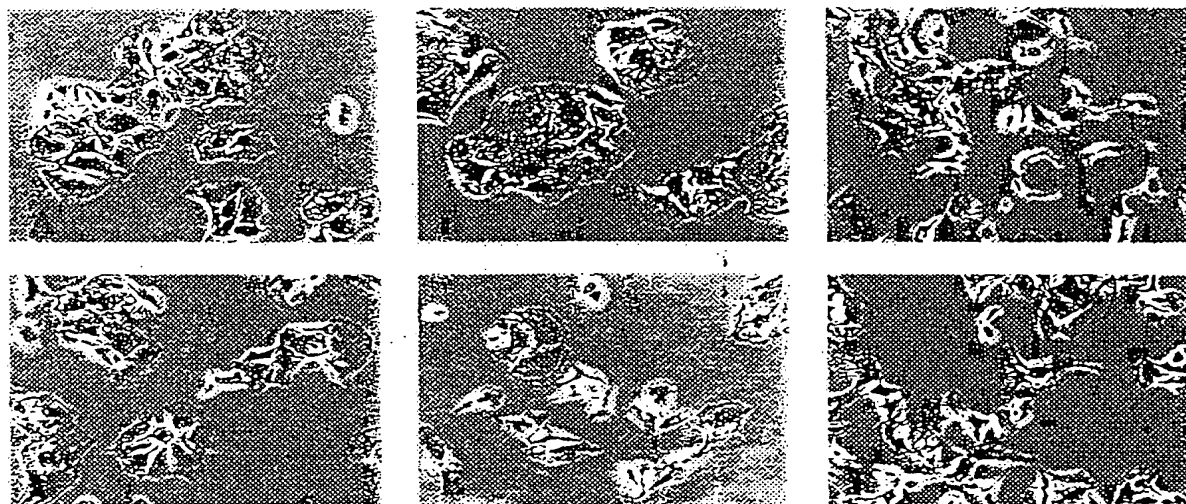


Fig 6

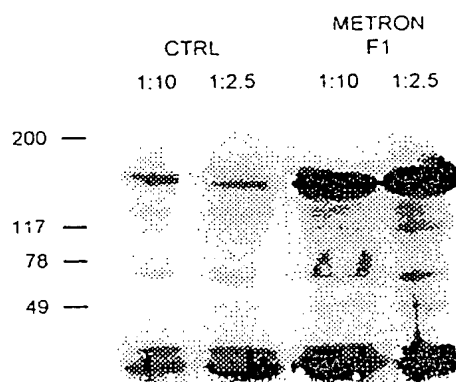
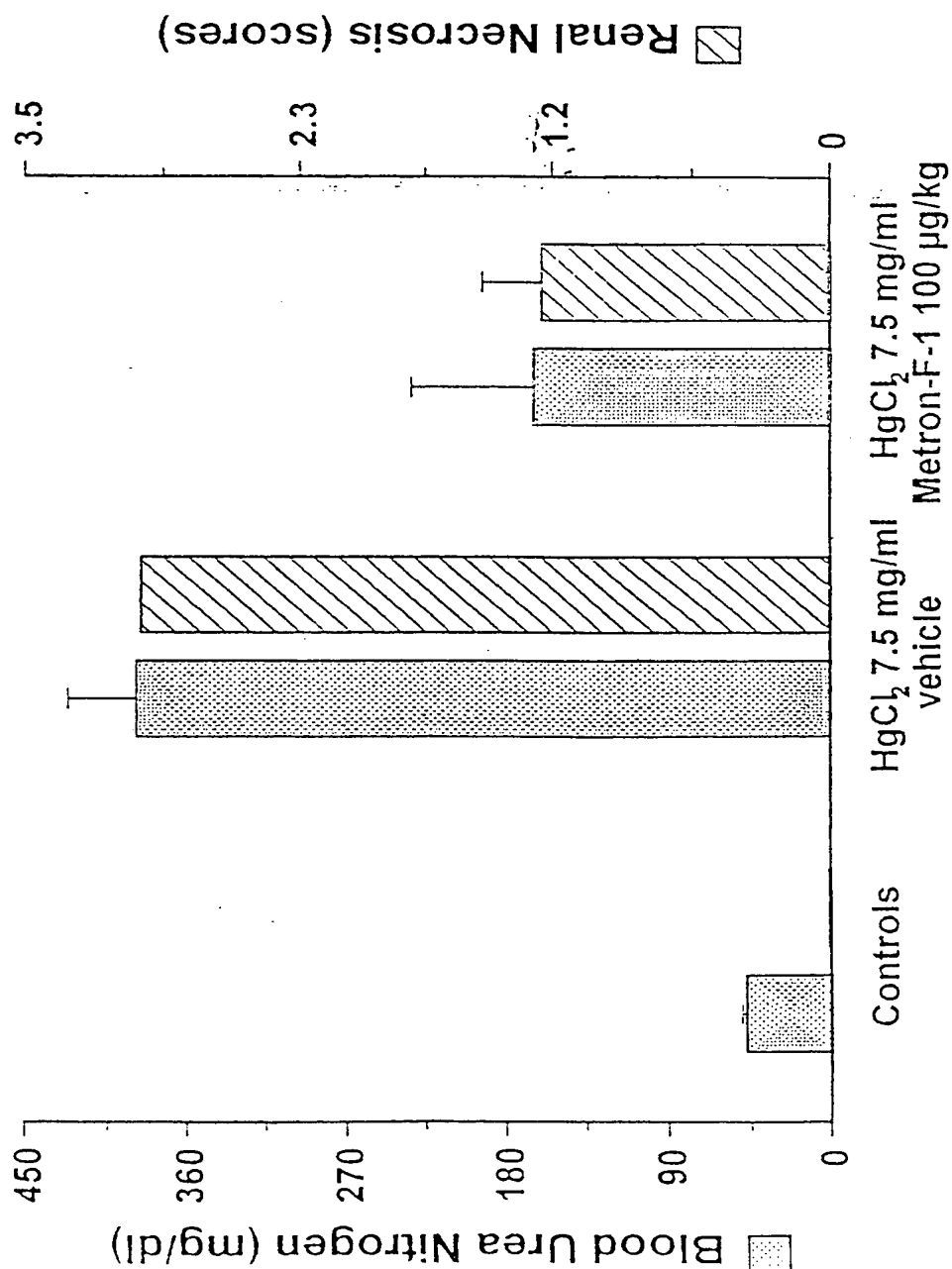


Fig 7

09/600991-094000

19/19

FIG 8



005T60 T6500350

09/600991